

## CLAIMS

1. A method for extracting acetaldehyde and determining its content, particularly in PET samples in the form either of a whole preform or of PET pieces or granules, comprising:
  - 5 locating the PET sample in a desorption cell, scavenging said desorption cell with air, incubating and heating the PET sample placed in the cell, pressurizing the cell, charging a loop, and transferring the loop content to a gas chromatography column and from there to a detector.
- 10 2. A method as claimed in claim 1, wherein cell scavenging is effected with air.
3. A method as claimed in the preceding claims, wherein the loop content is transferred by a transport gas such as hydrogen.
4. A method as claimed in the preceding claims, wherein the gas  
15 chromatography column is optimized for acetaldehyde separation.
5. A method as claimed in the preceding claims, wherein after an analysis, cell scavenging with air automatically commences after removing the PET sample.
6. An analyzer for extracting acetaldehyde and automatically  
20 determining its content, particularly in PET samples, characterised by comprising, in combination:
  - a desorption cell (1) into which said sample is inserted;
  - an analyzer system comprising a separation column (16) optimized for acetaldehyde separation;
  - 25 - a loop (9) connectable to said cell (1) to receive an aeriform acetaldehyde sample, which is then transmitted to the optimized

Moreover the technical costs and times involved in carrying out the test are such as to enable only a sporadic process check, considering the number of preforms produced in a normal productive plant. Generally from 1 to about 5 measurements per day are made  
5 in checking an average hourly production of about 15,000 preforms per injection moulding press.

In the prior art, acetaldehyde is determined in a chemical laboratory using an analytical system generally composed of a static headspace sampler, in combination with a gas chromatograph. The  
10 sample must be previously ground cryogenically, sifted and weighed, and moreover the preparation of the reference acetaldehyde solution requires laboratory personnel and methods (titrations, preparation of reference solutions, etc.). During production, preforms are withdrawn and sent to the laboratory. The result of the analysis is  
15 received after a time not compatible with production times.

The lack of a quick analysis result often results in the scrapping of large quantities of product.

An object of the present invention is to increase the monitoring of the PET preform production process by reducing analysis times and  
20 costs.

Another object is to create a system able to carry out an AA test in a short time, for example less than thirty minutes and, in particular, to enable it to be performed in proximity to or within the actual production plant, without having to use specialized laboratories and  
25 methods.